

REMARKS

Claims 8-17 and 19-29 are pending in the application. Claims 8, 17, and 24 have been amended, claims 26-27 have been cancelled, and new claims 30-31 have been added with this response. Reconsideration of the application is respectfully requested based on the following remarks.

I. REJECTION OF CLAIMS 8, 11, 16-17, AND 19 UNDER 35 U.S.C. § 103

Claims 8, 11, 16-17, and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,145,866 (Ting et al.) in view of U.S. Patent Publication No. 2002/0071398 (Moran et al.) in further in view of U.S. Patent No. 5,233,603 (Takeuchi et al.). Withdrawal of the rejection is respectfully requested for at least the following reasons.

- i. The cited art fails to teach at least one of the MAC interfaces being configured to receive/transmit GE packets independent of the other plurality of MAC interfaces, as recited in claim 8.*

Claim 8 recites an ingress/egress port for an Ethernet switch having a plurality of Media Access Control (MAC) interfaces, each MAC interface configured for receiving/transmitting Fast Ethernet (FE) packets, at least one of the MAC interfaces further being configured to receive/transmit Gigabit Ethernet (GE) packets independent of the other plurality of MAC interfaces. The Office Action alleges that Ting et al. teach a GE device port since a "NIC 134 can have 10 Fast Ethernet device ports 136 that can be link aggregated via being assigned the same MAC address." (See, O.A. of 4/26/10, p. 2, item 4). However, as will be more fully appreciated below, Ting et al. fail to teach ***at least one of the MAC interfaces being configured to receive/transmit GE packets independent of the other plurality of MAC interfaces***, as recited in claim 8.

More particularly, Ting et al. teach a data mover 100, for moving data between a plurality of clients 126-0, . . . , 126-N and a storage subsystem 102, comprising a network interface including at least one network interface card (NIC), 134-0, . . . , 134-4.

(See, Fig. 1). Each NIC 134 includes at least one port 136-0, . . . , 136-9, and in one example can include eight fast Ethernet (FE) device ports or one Gigabit Ethernet (GE) device port. Bandwidth to a file server can be increased by aggregating physical links from the file server to a switch 104 connected to the communications network. As shown in Fig. 1, link aggregation is provided by configuring physical links 122 - 0, . . . , 122 - 3 coupled to switch 104 as members of trunk 124 - 0 and configuring physical links 122 - 4, . . . , 122 - 7 as members of trunk 124 - 1. (See, col. 4, lns. 21-24).

Therefore, Ting et al. teach a NIC 134 having a plurality of MAC interfaces, wherein either: (1) each MAC interface is configured to receive/transmit FE packets; or (2) wherein **all of the MAC interfaces are collectively configured to receive/transmit GE packets**. However in either case, Ting et al. do not teach that **at least one** MAC interface is configured to operate as a GE port **independent of the other plurality of MAC interfaces**. ***Instead, they teach that a plurality of MAC interfaces collectively operate as a GE port*** (i.e., that each MAC interface of a NIC 134 is assisted by all the other MAC interfaces of a NIC to transmit GE packets). Accordingly, because Ting et al. teach a plurality of MAC that may individually act as FE ports or may collectively act as a GE port, they do not teach at least one MAC interface that may operate to transmit either GE or FE packets independent of the other plurality of MAC interfaces.

Moreover, each of the NIC's plurality of MAC interfaces taught by Ting et al. cannot be interpreted as a single MAC interface during link aggregation, since each NIC (alleged associated with a port) would not comprise a plurality of MAC interfaces, as recited in claim 8, but instead would only comprise a single MAC interface.

Furthermore, Tzeng et al. fail to remedy this deficiency. (See, O.A. of 4/26/10, p. 5, item 11; Office Action alleges that Tzeng et al. teach only one of the MAC interfaces is configured to receive/transmit both GE and FE packets). Ting et al. teach MAC interfaces that may singularly transmit FE packets or that may collectively transmit GE packets. Since Ting et al. teach the use of link aggregation to transmit a GE packet, they only require respective MAC interfaces to have a sufficient bandwidth to transmit

FE packets. ***Ting et al. do not teach, and would have no need for, a single MAC interface that would have a large enough bandwidth to transmit GE packets.***

In other words, while a port configured as set forth in claim 8 can be operated at much the same bandwidth, whether a GE or FE port, ***a MAC interface of Ting et al. could not be modified to transmit a GE packet since the MAC interface in the system of Ting et al. do not have enough bandwidth to transmit GE packets.*** Furthermore, even if such a modification were possible, it would not have been obvious to make such a modification since Ting et al. already teach a structure that allows for the transmission of GE packets. Therefore, it would not have been obvious to modify the single MAC interfaces taught by Ting et al. to receive/transmit both GE and FE packets, as recited in claim 8.

Accordingly, for at least the above reasons, withdrawal of the rejection of claim 8, and claims dependent therefrom, is respectfully requested.

Claim 17 recites an Ethernet switch comprising an ingress/egress port having a plurality of MAC interfaces, each MAC interface configured for receiving/transmitting Fast Ethernet (FE) packets, at least one of the MAC interfaces further being configured to receive/transmit Gigabit Ethernet (GE) packets independent of the other plurality of MAC interfaces. For the same reason stated above, Ting et al. fail to teach ***at least one of the MAC interfaces being configured to receive/transmit GE packets independent of the other plurality of MAC interfaces***, as recited in claim 17. Accordingly, withdrawal of the rejection of claim 17, and claims dependent therefrom, is respectfully requested.

- ii. No motivation or suggestion is present in the references to combine Moran et al. with Ting et al., and therefore the combination is improper.***

To establish a *prima facie* case of obviousness there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Further such motivation cannot be conclusory, but instead must

be ***apparent, and the analysis thereof should be made explicit.*** (See, MPEP 2143.01; citing *In re Kahn*, 441 F.3d 977, 986 (Fed Cir. 2006)). As will be set forth in greater below, it is respectfully submitted that the requisite motivation to combine together the cited references does not exist.

The Office Action asserts that it would have been obvious to one of ordinary skill in the art to use Moran's arrangement in Ting's invention to control the amount of bandwidth for a port. (See, O.A. of 4/26/10, p. 3, item 5). However, it is respectfully submitted that ***the requisite motivation to modify Ting et al. in accordance with Moran et al. does not exist.***

Ting et al. clearly teach "a method and apparatus ... for aggregating bandwidth over a communications network". (See, col. 1, Ins. 63-64)(emphasis added). In the background section, Ting et al. note that ***the use of link aggregation can avoid reduced bandwidth to a file server.*** (See, col. 1, Ins. 35-39; stating "Although the client can transmit data to the file server to any of the MAC addresses assigned to network device ports in the file server, this can result in uneven distribution of data packets, resulting in reduced bandwidth to the file server.").

In contrast, Moran et al. teach a method and apparatus for limiting/reducing bandwidth. (See, e.g., par. [0004]). ***Since Ting et al. are concerned with aggregating (i.e., increasing) bandwidth to a file server, in contrast to Moran et al. who are concerned with limiting bandwidth,*** it would not have been obvious to one having ordinary skill in the art to modify Ting et al. to incorporate a teaching of Moran et al. ***to control the amount of bandwidth for a port.***

Accordingly, for at least this additional reason withdrawal of the rejection of claims 8 and 17, and claims dependent therefrom, is respectfully requested.

iii. The cited art fails to teach an ingress/egress port having a plurality of MAC interfaces, as recited in claims 8 and 17.

Claims 8 and 17 recite an ingress/egress port having a plurality of MAC interfaces. In response to the arguments provided by the Applicant on 1/20/10 (p. 10, section IV), the Office Action states that "Ting discloses a single port (network interface) that is associated with multiple interfaces (see figure 1)." (See, O.A. of 4/26/10, p. 10, item 29). However, it is respectfully maintained that ***Ting et al. fail to teach a single port having a plurality of MAC interfaces.***

Ting et al. clearly teach a network interface Card (NIC) that may comprise a plurality of ports 136-0, . . . , 136-9. (See, e.g., col., 4, lns. 5-16). Ting et al. further teach that each port comprises a single MAC address. (See, col. 4, lns. 8-11). ***Since each NIC comprises a plurality of ports, the network interface is incorrectly interpreted as a single port, as alleged in the Office Action of 4/26/10.***

Accordingly, for at least this additional reason withdrawal of the rejection of claim 8 and 17, and claims dependent therefrom, is respectfully requested.

II. REJECTION OF CLAIMS 9-10 UNDER 35 U.S.C. § 103

Claims 9-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,145,866 (Ting et al.) in view of U.S. Patent No. 5,233,603 (Takeuchi et al.) and further in view of U.S. Patent Publication No. 2003/0212815 (Tzeng et al.). Withdrawal of the rejection is respectfully requested for at least the following reasons.

Claims 9-10 depend upon claim 8 and add further limitations thereto. Because the primary references do not teach the present invention of claim 8, and because Tzeng et al. fail to remedy the deficiencies in the primary references, claims 9-10 are also non-obvious over the cited art. Accordingly, withdrawal of the rejection is respectfully requested.

III. REJECTION OF CLAIMS 12 AND 20 UNDER 35 U.S.C. § 103

Claims 12 and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,145,866 (Ting et al.) in view of U.S. Patent No. 5,233,603 (Takeuchi et al.) and further in view of U.S. Patent No. 6,356,951 (Gentry). Withdrawal of the rejection is respectfully requested for at least the following reasons.

Claim 12 depends upon claim 8 and adds further limitations thereto. Claim 20 depends upon claim 17 and adds further limitations thereto. Because the primary references do not teach the present invention of claims 8 and 17, and because Gentry fails to remedy the deficiencies in the primary references, claims 12 and 20 are also non-obvious over the cited art. Accordingly, withdrawal of the rejection is respectfully requested.

IV. REJECTION OF CLAIMS 13-15 AND 21-23 UNDER 35 U.S.C. § 103

Claims 13-15 and 21-23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,145,866 (Ting et al.) in view of U.S. Patent No. 5,233,603 (Takeuchi et al.) and U.S. Patent No. 6,356,951 (Gentry), and further in view of U.S. Patent No. 6,226,292 (Di Placido). Withdrawal of the rejection is respectfully requested for at least the following reasons.

Claims 13-15 depend upon claim 8 and add further limitations thereto. Claims 21-23 depend upon claim 17 and adds further limitations thereto. Because the primary references do not teach the present invention of claims 8 and 17, and because Gentry and Di Placido fail to remedy the deficiencies in the primary references, claims 13-15 and 21-23 are also non-obvious over the cited art. Accordingly, withdrawal of the rejection is respectfully requested.

V. REJECTION OF CLAIMS 24-25 AND 28-29 UNDER 35 U.S.C. § 103

Claims 24-25 and 28-29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 7,145,866 (Ting et al.) in view of U.S. Patent Publication No. 2002/0071398 (Moran et al.). Withdrawal of the rejection is respectfully requested for at least the following reasons.

- i. No motivation or suggestion is present in the references to combine Moran et al. with Ting et al., and therefore the combination is improper.*

To establish a *prima facie* case of obviousness there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Further such motivation cannot be conclusory, but instead must be ***apparent, and the analysis thereof should be made explicit.*** (See, MPEP 2143.01; citing *In re Kahn*, 441 F.3d 977, 986 (Fed Cir. 2006)). As will be set forth in greater below, it is respectfully submitted that the requisite motivation to combine together the cited references does not exist.

The Office Action asserts that it would have been obvious to one of ordinary skill in the art to use Moran's arrangement in Ting's invention to control the amount of bandwidth for a port. (See, O.A. of 4/26/10, p. 8, item 22). However, it is respectfully submitted that ***the requisite motivation to modify Ting et al. in accordance with Moran et al. does not exist.***

Ting et al. clearly teach "a method and apparatus ... for **aggregating bandwidth** over a communications network". (See, col. 1, lns. 63-64)(emphasis added). In the background section, Ting et al. note that ***the use of link aggregation can avoid reduced bandwidth to a file server.*** (See, col. 1, lns. 35-39; stating "Although the client can transmit data to the file server to any of the MAC addresses assigned to network device ports in the file server, this can result in uneven distribution of data packets, resulting in reduced bandwidth to the file server.").

In contrast, Moran et al. teach a method and apparatus for limiting/reducing bandwidth. (See, e.g., par. [0004]). ***Since Ting et al. are concerned with aggregating (i.e., increasing) bandwidth to a file server, in contrast to Moran et al. who are concerned with limiting bandwidth, it would not have been obvious to one having ordinary skill in the art to modify Ting et al. to incorporate a teaching of Moran et al. to control the amount of bandwidth for a port.***

Accordingly, withdrawal of the rejection of claims 28 and 29 is respectfully requested.

- ii. The cited art fails to teach at least one MAC interface being configured to receive/transmit GE packets independent of the other plurality of MAC interfaces, as recited in claim 24.***

Claim 24 recites a method comprising providing data packets to an ingress/egress port of an Ethernet switch, ingress/egress port having a plurality of Media Access Control (MAC) interfaces, each MAC interface configured for receiving/transmitting Fast Ethernet (FE) packets, at least one of the MAC interfaces further being configured to receive/transmit Gigabit Ethernet (GE) packets independent of the other plurality of MAC interfaces.

As stated above, Ting et al. ***fail to teach at least one MAC interface being configured to receive/transmit Gigabit Ethernet (GE) packets independent of the other plurality of MAC interfaces***, as recited in claim 24. Accordingly withdrawal of the rejection of claim 24 is respectfully requested.

- iii. The cited art fails to teach an ingress/egress port having a plurality of MAC interfaces, as recited in claims 24 and 28-29.***

Claims 24 and 28-29 recite an ingress/egress port having a plurality of MAC interfaces. In response to the arguments provided by the Applicant on 1/20/10 (p. 10, section IV), the Office Action states that "Ting discloses a single port (network interface) that is associated with multiple interfaces (see figure 1)." (See, O.A. of 4/26/10, p. 10,

item 29). However, it is respectfully maintained that ***Ting et al. fail to teach a single port having a plurality of MAC interfaces.***

Ting et al. clearly teach a network interface Card (NIC) that may comprise a plurality of ports 136-0, . . . , 136-9. (See, e.g., col. 4, Ins. 5-16). Ting et al. further teach that each port comprises a single MAC address. (See, col. 4, Ins. 8-11). ***Since each NIC comprises a plurality of ports, the network interface is incorrectly interpreted as a single port, as alleged in the Office Action of 4/26/10.***

Accordingly, for at least this additional reason withdrawal of the rejection of claim 24 and 28-29, and claims dependent therefrom, is respectfully requested.

VI. NEW CLAIMS

New claims 30-31 have been added with this response. The limitations of the new claims is not taught by the cited art and therefore claims 30-31 are believed to be patentably distinct over the cited art.

VII. CONCLUSION

For at least the above reasons, the claims currently under consideration are believed to be in condition for allowance.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should any fees be due as a result of the filing of this response, the Commissioner is hereby authorized to charge the Deposit Account Number 50-1733, LANP129US.

Respectfully submitted,
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